

**Exemption No. 6652**

**UNITED STATES OF AMERICA  
DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION  
RENTON, WASHINGTON 98055-4056**

In the matter of the petition of

**Federal Express Corporation**

for exemption from 14 CFR §§ 25.857(e) and  
25.1447(c)(1)

**Regulatory Docket No. 28696**

**PARTIAL GRANT OF EXEMPTION**

By letters dated September 18, 1996, October 22, 1996, and March 13, 1997, Misters W. Clifford Holland and Arthur J. Benjamin, Federal Express Corporation, 3101 Tchulahoma, Memphis, TN 38118, petitioned the FAA for certain exemptions to allow the carriage of up to twenty-four supernumerary occupants in the aft portion of the main deck Class E cargo compartment on DC-10 and MD-11 aircraft, in support of both live animal cargo operations and the carriage of inanimate and/or hazardous cargo.

**Affected Sections of the FAR:**

Section 25.857(e) defines the attributes of a Class E cargo compartment, and requires that a Class E cargo compartment may not be on any aircraft other than one utilized exclusively for the carriage of cargo (i.e., occupants other than flightcrew not permitted).

Section 25.1447(c)(1) requires, in pertinent part, that oxygen masks must be immediately available to each seated occupant, be automatically deployed with manual backup, and must exceed in number the quantity of seats by a minimum of ten percent, with the extra units distributed evenly throughout the cabin.

ANM-96-039-E

**Related Sections of the FAR:**

14 CFR § 25.855(a) requires that cargo compartments must meet one of the class requirements of § 25.857.

14 CFR § 121.583 provides, in pertinent part, that when authorized, certain persons other than passengers may be carried aboard an airplane not in compliance with certain passenger-carrying requirements including those described in 14 CFR §§ 121.310 and 121.317.

**The petitioner's supportive information is as follows:**

Federal Express (hereafter referred to as FedEx) is a company specializing in providing worldwide services in the transportation of cattle, race horses, and other similar animals, as well as the transportation of valuable and/or confidential cargo. Federal Express uses aircraft ranging in size from DC-10's to MD-11's to carry animals and valuable and/or confidential cargo.

At the present, all of our aircraft allow company employees, under the provisions of § 121.583(a)(2). These seats are not permitted to be occupied by other than company employees, and therefore do not fulfill our needed role.

These animals and valuable and/or confidential cargo are often worth millions of dollars. This cargo cannot be insured unless there are enough qualified supernumeraries on board. Safety is our primary concern with this modification. For safety reasons, the International Animal Transportation Association (IATA) recommends that for up to four pallets, one experienced groom be provided for each pallet of horses being shipped. For more than four pallets of horses, it is at the discretion of the carrier and shipper to determine the optimum requirements. Typically, the DC-10/MD-11 can accommodate up to twenty-four pallets. Naturally, the number of qualified supernumeraries is commensurate with the value and safety of the cargo, be it live or valuable and/or confidential.

This petition is for exemption from §§ 25.587(e) and 25.1447(c)(1). The exemption from § 25.587(e) will allow for the accommodation of up to twenty-four supernumeraries in support of livestock transportation and the transportation of valuable and/or confidential cargo in the main deck Class E cargo compartment. On the DC-10 aircraft, positions 11 and 12, and on the MD-11 aircraft, positions 12, 13, and 14 will have specially designed attendants' pallets. The Type I door 4 exits, left and right, will be fully activated. The exemption from § 25.1447(c)(1) will mandate an equivalent level of safety for the supernumeraries at their seats and when they leave their seats to perform their assigned duties. There will be two

oxygen bottles per person, thus meeting the requirements of § 24.1447(c)(1). The number of oxygen units exceeds the number of supernumeraries by 100 percent. All the supernumeraries will be required to have in their possession an oxygen unit when the aircraft is over 10,000 feet.

All features of the Class E cargo compartment required under §§ 25.855 and 25.857 will be retained, and all safety requirements of part 25 as defined by the certification basis of the airplane in the Type Certification Data Sheet will be complied with.

It is our intent that this pallet may be similarly occupied, for the purpose of staging, during operations in which no scheduled cargo whatsoever is transported.

An approved training plan will be initiated to instruct the supernumeraries in the prohibition of smoking and procedures in equipment use relating to ditching and emergency evacuation.

#### Pallet Design:

The pallet and its restraint system are designed and substantiated to the emergency landing conditions of 14 CFR § 25.561.

#### Emergency Egress:

1. Door 4, left and right, will be reactivated to serve as emergency exits.
2. Approved and certified slides will be installed at door 4 left and right to provide emergency egress assist means from the aircraft.
3. Life vests will be provided for each supernumerary, and [each] slide can be detached and utilized as a raft.

#### Supplemental Oxygen:

1. The oxygen bottle assembly is fitted with a sling that must remain with the supernumerary at all times when the aircraft is over 10,000 feet. During takeoff and landing, the oxygen assembly is stowed under his/her seat.
2. In the event of an unscheduled decompression, the public address system will be used.

#### Emergency Lighting System:

14 CFR § 25.812: An independent electrical source will be provided for the following items:

1. Exit Identifier Signs

2. Emergency lighting illumination of the pallet, passageways, door signs, instructions, etc., is provided.

Fasten Seat Belt Signs:

14 CFR § 25.791: Switchable lighted "Fasten Seat Belt" signs are provided in full view of all seated supernumeraries. The public address system will be used to advise those not seated.

Flight Deck Communications:

14 CFR § 25.1423: The aircraft is equipped with a public address (PA) system that is audible throughout the occupied area during all anticipated flight operations and conditions associated with the carriage of live animals or the transportation of valuable and/or confidential cargo.

Placards:

The following placards will be installed:

1. No Smoking Signs.
2. Door operating instructions.
3. Slide operating instructions.
4. Raft operating instructions.
5. External door markings.

The following additional information is provided:

The public interest is served by the granting of this exemption because it promotes and fosters safe, secure, efficient, and humane transportation of highly valued live-animal cargo and other, inanimate cargo, which, because of its value and nature, requires an extraordinary level of support and care during its transportation. Public safety, and particularly flight safety, would be enhanced by the grant of the exemption by allowing the shipper and FedEx the flexibility to ensure that necessary and required personnel, including training, handling, medical, security, technical, and safety experts, have access to the cargo, and are in position to deal with extraordinary circumstances, including emergencies, as they arise.

The oxygen bottles are assembled per FedEx specifications, and are equipped from the manufacturer with an over-shoulder strap and waist strap. This oxygen device is required to

be strapped to the supernumeraries at all times, and therefore, an equivalent level of safety, or better, is achieved.

The IATA recommendations are just that: recommendations. The member airlines of IATA have developed these recommendations to help member airlines determine the appropriate number of supernumeraries on the aircraft. The IATA is just one of many associations involved in the transportation of live animals. Many other associations recommend different numbers of supernumeraries per number of animals. From a customer and/or owner perspective, a one-to-one relationship may be required. The normal use for the requested exemption would be for the transportation of thoroughbred horses. This type of horse is normally highly active and has been with one trainer or veterinarian for its entire life. The horse knows and responds to this individual. Having that person or persons on the flight with the horse helps to ensure the safe movement of this highly valued animal, and fosters flight safety.

A normal shipment of valuable and confidential cargo is typified by the carriage of satellites and other highly technical cargo. This cargo requires the carriage of numerous supernumeraries to provide monitoring, security, and technical advice. Satellite and support equipment carries g-force monitoring equipment, rocket fuel, and other materials requiring the expertise of supernumeraries during all phases of the operation. A satellite is considered high technology, and must be monitored by U.S. State Department representatives during all phases of the operation to ensure against theft, sabotage, and unauthorized transfer of technology. The currently available launch sites around the world are in extremely remote locations, and the required supernumeraries are otherwise unable to get to these locations, such as Taiyuan, China and Bokonour, Russia. These remote sites also require the airlines to transport aircraft maintenance personnel, loadmaster personnel, and extra flightcrews, along with those to address State Department requirements, manufacturers' requirements, insurance requirements, and shipper requirements. Twenty-four supernumeraries for inanimate cargo is not unusual, and often required for safe flight operations.

To help clarify and ultimately receive approval of this petition, FedEx respectfully requests that this petition be reviewed, acted upon, and approved by using the following priority list:

1. 12-person seat pallet on the MD-11 for the carriage of animals.
2. 24-person seat pallet on the MD-11 for the carriage of animals.
3. 24-person seat pallet on the DC-10 for the carriage of animals.
4. 12-person seat pallet on the MD-11 for the carriage inanimate cargo.
5. 12-person seat pallet on the DC-10 for the carriage of inanimate cargo.
6. 24-person seat pallet on the DC-10 for the carriage of inanimate cargo.
7. 24-person seat pallet on the MD-11 for the carriage of inanimate cargo.

Federal Express declares that the requested petition of exemption is intended only for exclusive use by our Charter Operations department. All flights conducted using this exemption will be strictly controlled and monitored by our Charter Operations department. At no time will employees on personal or business travel be allowed to occupy any seat on these pallets during FedEx's normally scheduled service operational or charter positioning flights. For flights planned under the exemption, only mission-essential cargo, crew, and supernumeraries will be aboard the aircraft.

It is FedEx's intention to seek approval for two configurations, one accommodating up to twelve supernumeraries and another accommodating up to twenty-four supernumeraries on both the DC-10 and MD-11. Please refer to the priority list above. Only aircraft with operative L4 and R4 emergency exit doors to facilitate emergency egress would be eligible to fly under the requested exemption. (The Nos. 2, 3, and 4 doors on the majority of FedEx's aircraft have been deactivated. These aircraft would not be eligible.)

A DC-10 accommodates twenty loadable positions when using either the 12- or 24-person seat pallet, for a total of fifty-six horses on the aircraft. The MD-11 accommodates twenty-five loadable positions when using the 12-person seat pallet and twenty-four loadable positions when using the 24-person dual seat pallets, for a total of seventy-two and sixty-nine horses on the aircraft, respectively.

Further justification for the request of twenty-four supernumeraries during the carriage of live animals: As stated above, "from a customer and/or owner perspective a one-to-one relationship may be required." Included with this petition are four recommendations from recognized industry leaders regarding the transport of thoroughbred horses. Three of the four are from current FedEx customers specifically requesting and highlighting the requirement for additional attendants to accompany live animals. The fourth is a proposal that was submitted to the airlines from the Animal Transport Association (AATA). This document recommends that full charters require a minimum of thirteen to fourteen grooms. We emphasize the word minimum.

The growing world economy requires FedEx to view the transport of live animals from a global perspective. Federal Express is now in competition for this business with foreign carriers such as Lufthansa, Korean Air, Cargolux, Japan Airlines, and Cathay Pacific Airways. It is FedEx's opinion that AATA's recommendation, if embraced by shippers, will severely restrict the number of U.S. airlines capable of engaging in this business, given current regulatory interpretations. This, combined with increasing customer requirements for attendants, will surely drive this market to foreign carriers. The explicit reason for the submission of this petition is so that FedEx will not be placed at a competitive disadvantage in the highly valued animal segment of the world airfreight market. We further note that AATA

recommends a minimum of one groom/attendant for every three horses. Extrapolated to the MD-11, twenty-four loadable positions of three horses per pen would therefore require twenty-four groom/attendants. As an interesting aside, the value of champion horses loaded on an aircraft today usually far exceeds the hull value.

We offer the following additional comments, using the commercial satellite business as an illustration. With the ever-changing world economies, and the recent opening of China and the former Soviet Union, business opportunities are becoming available that couldn't even be contemplated before. Many U.S.-based electronic companies are moving rapidly into satellite-based communication cellular phone systems. Also, other companies are planning satellite systems to support things such as global positioning systems (GPS), weather radar, and other dedicated communication systems. With only thirteen viable launch complexes currently in existence around the world, there is a launch backlog. There are reasons for the limited number of suitable sites, such as incompatibility of population areas with the large hazard zone associated with the launch trajectory, coupled with the desire to launch in the posigrade or easterly direction, to take advantage of the decreased propulsion requirements to achieve orbital velocity. The net result is that most launch complexes outside the U.S. are in remote areas of the world. The sites in China and the former Soviet Union are located in especially remote areas. The politics and economics of remote sites require that items and personnel needed for the support and launch of the satellite be transported to those locations in one movement. There are no commercial flights available to such places as Baikonur, Russia and Taiyuan, China. In fact, IATA and the International Civil Aviation Organization (ICAO) haven't yet assigned airport identifier codes for the Baikonur Cosmodrome, most likely due to its recent super-secret status and lack of commercial air traffic. We have researched overland transport to these remote sites and found that in some cases, roads do not exist and in most others, they are inadequate, unsafe, or occasionally impassable. In short, there is no reliable public transportation available to allow U.S. technical personnel to reach these remote sites, so positioning of personnel has become considerably more difficult for aerospace companies. Prohibitions against supernumeraries can be expected to drive aerospace companies to use foreign airlines operating such freighter aircraft as the AN-124 and IL-76. Public interest would be served if FedEx was granted the authority to operate flights with the requested number of supernumeraries into these remote locations.

Rather than petition for the generic exemption that is currently sought, Federal Express had considered petitioning for exemption only to the degree necessary on a case-by-case basis, tailoring each petition to the limited specifics of an individual mission. Given the backlog, however, booking of a date and site for a satellite launch is required far in advance of the actual shipment, sometimes a year or two. If, for any reason, the exemption had not been granted at the time to transport arrived, a multi-million dollar, multi-national operation could be jeopardized. Launch customers simply could not and would not make advance commitments

for FedEx charter with the risk that we might not receive approval for the flight or that the approval might not be timely. Again, this situation mitigates against the public interest by tending to drive aerospace companies toward foreign carriers.

With regard to the issue of transporting hazardous materials, in conjunction with the use of the seat pallets, FedEx understands that the FAA would not issue an exemption, but the Department of Transportation (DOT) has issued exemptions to provide for this circumstance. The carriage of specific hazardous materials may be needed due to the remoteness of a launch site. Carriage may also be needed when consideration is given to the availability and possibly the quality of the material if procured in a foreign country.

Supplemental oxygen will be immediately available to each person at aircraft altitudes above 10,000 feet. Briefing cards and associated equipment, such as placards (if any) will clearly reflect this.

There are basically two scenarios to consider: The first and worst scenario is rapid decompression at altitude, which by nature is self-notifying, as those who have participated in altitude chamber training will testify. Air is forced from the lungs, the cabin usually fills with condensation, dust, and debris, and the noise level also increases dramatically. Time is of the essence when this occurs. The time of useful consciousness may be very short - on the order of twenty-five seconds at 35,000 feet without supplemental oxygen. For this reason, training and briefing cards for personnel, and the requirement to keep oxygen readily available at all times are stressed. Federal Express abides by § 121.583 regarding this issue. A trained individual will don their mask immediately and not wait to verify that the signal has been given. Delay wastes valuable time and may result in an individual losing consciousness. Therefore, the notification signal is redundant in this case, and individuals probably won't even bother to verify it until after they have donned their masks. Again, these personnel are by definition trained, mobile, and mission-essential - not passengers.

The second and more insidious scenario is a gradual decompression, usually caused by a malfunctioning pressure controller or outflow valve which causes the cabin altitude to climb. However, cockpit cabin pressure warning systems which automatically trigger when the cabin altitude exceeds 10,000 feet are installed on all U.S.-certificated jet transports. The obvious difference in these two scenarios is that during a gradual decompression, longer periods of useful consciousness exist and consequently more time for notification is available.

Federal Express assigns the loadmaster the duty of staying continually linked via two-way communications to the flightcrew. His specific responsibilities during pressurization emergencies are to verify that each person has donned an oxygen mask properly and is in good condition after donning a mask. This parallels the procedures used aboard Air Force jet



transports, and we believe it is a safer way to operate than simply depending on individuals, who may be sleeping, to observe an automatically initiated alert signal. Of course, flightcrew procedures also normally require that a descent be initiated should this type of malfunction occur.

The FedEx loadmaster force is a highly trained and skilled work group dedicated to the preservation of safety during all segments of flight. All FedEx loadmasters are trained in relevant FAR, aircraft and life support systems, weight and balance, emergency evacuation, and the operation and control of supernumeraries during seat pallet operations.

After a thorough review of the FAR, we believe that the safety factor afforded our mission-essential personnel is at least equal to or possibly greater than that afforded commercial airline passengers. Regulations only require a ten-minute duration of oxygen be supplied to commercial airline passengers. The FedEx current plan is to provide each attendant with a one-hour supply of oxygen.

Note that with live-animal carriage, there is an absence of flammable material on the aircraft. Also note that on inanimate freight charter flights, the loadmaster and mission-essential personnel are intimately familiar with hazards, if any, associated with the cargo.

Other points of consideration:

There is no smoking allowed on FedEx flights at anytime, by company edict.

Federal Express aircraft interiors do not have some of the potential fire dangers found on passenger aircraft. For example, we do not use pyrotechnic oxygen generators.

Our interiors are open, without bulkheads or compartments, making fire suppression a simpler task.

A summary of FedEx's' petition was published in the Federal Register on April 2, 1997 (62 FR 15743). No comments were received.

**The FAA's analysis/summary is as follows:**

Part 121 of the FAR, e.g., § 121.583, recognizes a "person" category of occupant, as distinct from "passenger" or "crew" occupants addressed in part 25, and allows non-compliance, for operational purposes only, with certain part 121 requirements normally pertinent to passenger-carrying airplanes, passenger-carrying operations, and passenger requirements. These "persons" are commonly referred to as supernumeraries. Supernumeraries are a special class of occupant, by virtue of certain knowledge and abilities attributed to them through selection and mandatory training. The resulting enhanced capabilities of supernumeraries, over that which can be expected of passengers, allows in certain instances the exemption from selected type design requirements that are normally imposed for the safety of ordinary passengers. In all cases, however, the desired end result is the retention of all passenger safety features to the maximum extent reasonable, when all factors are considered, and an overall level of safety for supernumeraries that is comparable to that afforded to passengers.

Part 25, however, contains no similar provision which addresses "persons." Therefore, regardless of any part 121 provisions for operation, in order to modify part 25 transport category aircraft by installing supernumerary accommodations that do not comply with part 25 certification requirements for passengers, it is first necessary to petition for and obtain exemption from affected part 25 requirements. To date, the FAA has processed, generally favorably, a number of petitions for exemption associated with the installation of supernumerary accommodations. In most instances, these petitions have addressed accommodations for only a few supernumeraries, and located immediately aft of the flight deck, which is a scenario reasonably consistent with that thought to be envisioned during the promulgation of § 121.583. Although no documentation can be located which definitively discusses the intended scope or quantities of supernumerary persons envisioned during the promulgation and subsequent revisions of § 121.583, neither is there any indication that it was intended that "large" numbers of supernumeraries, fulfilling functions not related to the flight event, and located other than in close proximity to the flight deck, be permitted.

It is with some concern, therefore, that the FAA has noted a trend toward proposals for rather more ambitious accommodations, the most extreme example currently being accommodations for up to sixteen animal handlers at the aft portion of main deck Class E cargo compartments on very large Boeing 747 aircraft. The FAA is concerned with assuring that the spirit of the provisions of § 121.583 is not being violated at some point, that supernumerary occupants of cargo compartments are afforded a level of safety that is reasonably consistent with that required to be provided to passengers, and that there is a public interest in granting the exemption sought.

Federal Express' petition requests approval to accommodate up to twenty-four supernumeraries who are intended to provide varying degrees of support to various types of missions, including the accompaniment of inanimate hazardous cargo, and live-animal cargo. These accommodations are intended to be located remotely from the flight deck at the aft portion of the main deck Class E compartment on widebody aircraft. This petition exceeds in many respects the accommodations currently approved by exemption: (1) The overall number of proposed supernumeraries exceeds the currently approved maximum number granted for larger aircraft. (2) During the carriage of live-animals, the ratio of animal handlers to number of animals being carried exceeds that currently approved. (3) This petition includes the proposal to accommodate supernumeraries during the carriage of inanimate cargo, which has hitherto been expressly denied. (4) This petition includes the proposal to accommodate supernumeraries during the carriage of hazardous cargo, to explicitly include rocket fuel, which is a proposal that has never been even remotely entertained. (5) For the carriage of inanimate cargo, this petition includes the request to accommodate supernumeraries who serve no function directly related to or necessary for the carriage or movement of the intended cargo. (6) This petition is not specific with regard to either the inanimate cargo intended or the functions of the desired accompanying supernumeraries.

Although portions of the petition reflect a dramatic increase in scope far beyond that currently approved by exemption for others, as outlined above, the FAA is nevertheless sympathetic with the petitioner's plans for participation in the particular commercial ventures described. In adopting this stance, however, the FAA is nevertheless obligated as its primary responsibility to address the safety of the occupants of transport category airplanes certificated to part 25 requirements. Accordingly, after considerable review, the FAA has determined the following:

The Accommodation of Supernumeraries Remotely Within a Class E Cargo Compartment to Attend to Live-Animal Cargo Only

Federal Express proposes two configurations of the MD-11: One, which would accommodate up to twenty-four supernumeraries to attend to up to sixty-nine horses, and another, which would accommodate up to only twelve supernumeraries to attend to up to seventy-two animals. (Except that accommodating more animal pallets physically necessitates the accommodation of fewer supernumerary seat pallets, FedEx does not offer an explanation for justifying why it is acceptable to them and their customers to transport more animals with half the supernumeraries than the other configuration would allow.)

Similarly, FedEx proposes two configurations of the DC-10: One which would accommodate up to twenty-four supernumeraries to attend to up to fifty-six animals, and another, which would accommodate up to twelve supernumeraries to attend to up to the same number of animals. (As noted above, FedEx does not offer an explanation for justifying why it is

acceptable to them and their customers to transport the same number of animals with half the supernumeraries than the other configuration would allow.)

Federal Express has included with its petition industry guidelines from the IATA relative to their recommended quantity of supernumerary grooms during the carriage of animals. Also included was a copy of AATA's recommendations to IATA for changes to those guidelines, and copies of letters from customers who desire higher groom/horse ratios than either the existing or proposed guidelines provide.

The FAA considers it reasonable that the IATA's current general guidelines in this regard, and even the more definitive groom/horse ratios suggested by the AATA (but apparently not adopted, at least not yet, by the IATA), should provide for an adequate level of care for animals being transported. The AATA suggests a *minimum* of fourteen supernumerary grooms per [undefined] *full charter*. In contemplating this number, note is made that the previous two exemption requests by others, which have been granted by the FAA, have resulted in total counts (upper deck plus main deck) of thirteen and twenty-one supernumeraries, in both cases for up to eighty-seven animals. In considering FedEx's petition for a maximum of twenty-four supernumerary grooms to attend to up sixty-nine animals, the FAA is persuaded, in view of comments received with the petition relative to the special needs of highly valued animals, that this is not unreasonable. Accordingly, the FAA approves the petition relative to the desired numbers of supernumeraries on the indicated aircraft, with up to the requested number of animals, under the following conditions:

1. Full compliance shall be maintained with all requirements of part 25 relative to Class E cargo compartments and the carriage of passengers, except as proposed in the petition, and/or as modified or supplemented in the nine additional conditions listed immediately below.
2. The proposed PA system shall include the capability for announcements throughout the main deck area, including the lavatory, from the supernumerary seat pallet area.
3. Interphone capability shall be provided between the supernumerary seat pallet area and the flight deck.
4. In lieu of the notification function normally provided by automatically presented oxygen masks, a dedicated audible decompression alert shall be provided which is automatically actuated (with manual backup) in a manner described in § 25.1447(c)(1). This alert should be audible and recognizable in flight throughout the main deck area including lavatory.

5. Flightcrew switchable, lighted passenger information "Fasten Seat Belts" signs required by § 25.791 should be legible throughout the main deck areas where supernumeraries are permitted.
6. As a part of addressing the concern with accommodating occupants in a Class E cargo compartment, protective breathing equipment (PBE) meeting the intent of 14 CFR § 25.1439 shall be available for each supernumerary at the seat pallet location.
7. Fire extinguishers meeting the intent of 14 CFR § 25.851 shall be provided, except that, in this particular regard, the main deck Class E cargo compartment shall be considered a Class E cargo compartment, a lower-lobe galley, or an isolated compartment, whichever requires the most conservative quantity and location of this equipment.
8. In order for portable oxygen bottle assemblies to be considered as an acceptable means of providing supplemental oxygen in accordance with the intent of § 25.1447, the requisite amount of oxygen needs to be assured, the masks with tubing must be attached to the bottles and ready for use, and an oxygen bottle assembly must be immediately available to each supernumerary when necessary. Bottle assemblies installed, secured, or stowed at seat locations shall be protected from damage from either other stowed items or from accidental damage, and shall be located and configured to permit immediate access and use. When the aircraft altitude exceeds 15,000 feet, a bottle assembly shall be worn by each supernumerary at all times when not in the vicinity of the seat pallet(s) where bottle assemblies are normally located. In order to assure that sufficient oxygen supply is available, each bottle shall be equipped with a gage indicating its fill status. Oxygen masks provided in response to this condition may include a diluter capability.
9. The design of Class E cargo compartments is predicated upon implementation of the cabin decompression procedures required by § 25.857(e)(3) to control a fire until a landing can be effected. Accordingly, DC-10 and MD-11 Airplane Flight Manual (AFM) procedures which require raising the cabin altitude to 25,000 feet when above 27,000 feet, and establishing a cabin differential pressure of 0.5 psi when below 27,000 feet, shall be retained. Additionally, in order to provide for occupants of this compartment for the duration of any such event, supplemental oxygen equipment available for each supernumerary occupant shall be sized for the potentially worst case duration flight operations anticipated. In order to assure that sufficient oxygen supply is available, especially when multiple bottles may be utilized to comply with this condition, each bottle shall be equipped with a gage indicating its fill status. In order to preclude the inhalation of combustion products during this interval, this equipment shall include an oxygen mask with a non-diluter capability.
10. The seat pallet(s) may also be occupied by animal handler supernumeraries during operations in which no cargo at all is transported, provided that this transport is for the purpose

of reaching or returning from a destination where live-animal cargo is delivered, and shall not be so occupied during operations in which any cargo whatsoever other than live animals is being transported. The seat pallet(s) may not be occupied by any other type of supernumeraries at any time.

Finally, accommodating any occupants in what would otherwise be a Class E cargo compartment means that this cargo compartment no longer complies with any cargo compartment designation. Technically, this would be a violation of § 25.855(a) which requires that all cargo compartments comply with one of the designated classifications. Accordingly, although exemption from this requirement was not sought, exemption from this requirement of § 25.855(a) is necessarily granted.

The Accommodation of Supernumeraries Remotely Within a Class E Cargo Compartment to Attend to Inanimate and/or Hazardous Cargo

The FAA has previously considered the accommodation of animal handler supernumerary occupants in Class E cargo compartments during the carriage of live-animal cargo, or no cargo, to represent an approximately neutral fire risk, i.e., the presence of occupants may contribute to causing fires, but on the other hand, they are available to attempt to extinguish any fires that may develop. That assessment has significantly influenced the FAA's decisions to permit those accommodations, provided that certain conditions are observed.

On the other hand, the FAA has previously determined that the carriage of inanimate cargo in Class E cargo compartments constitutes an increased fire risk to supernumerary occupants accommodated within that same compartment, and the FAA has consequently been consistent in prohibiting those configurations. Federal Express' petition includes no information which would alter the FAA's determinations in this regard. In fact, as noted above, FedEx's proposal would tend to put at risk occupants who have no clear relation to the conduct of the flight operations. In addition, that level of risk may be higher than ordinarily encountered, due to the potentially hazardous nature of the particular cargo intended. Accordingly, although there appears to be a sufficient public interest justification to otherwise warrant some degree of relief, the FAA considers that there would be the likelihood of an overall significantly lower level of safety afforded to the supernumerary occupants of the proposed configuration, and especially when operated as proposed. This particular configuration is therefore not approved.

The FAA suggests that FedEx reconsider the means by which they had intended to participate in the intended operations. Specifically, a "combi" configuration which accommodates occupants without restriction in one compartment, concurrently with inanimate cargo in an adjacent but completely separate compartment, may be an acceptable alternative for satisfying the reasonable concerns of all involved.

In consideration of the foregoing, I find that a partial grant of exemption is in the public interest, and is determined to not have a significantly adverse effect on the level of safety provided by the regulations. Therefore, pursuant to the authority contained in § 49 USC 40113 and 44701 of the Federal Aviation Act of 1958, delegated to me by the Administrator (14 CFR 11.53), the portion of FedEx's petition for exemption from the requirements of §§ 25.855(a), 25.857(e), and 25.1447(c)(1) to allow the accommodation of animal-handler supernumeraries in the aft portion of the main deck Class E cargo compartment of DC-10 and MD-11 cargo aircraft, to attend to live-animal cargo, is granted subject to the ten conditions listed above in the FAA's analysis/summary section.

With regard to the portion of FedEx's petition for exemption which would allow the remote accommodation of supernumeraries in the main deck Class E cargo compartment of DC-10 and MD-11 cargo aircraft to support the carriage of inanimate and/or hazardous cargo, I find that a grant of exemption is not in the public interest. Therefore, pursuant to the authority contained in § 49 USC 40113 and 44701 of the Federal Aviation Act of 1958, delegated to me by the Administrator (14 CFR 11.53), the petition of Federal Express for an exemption from the requirements of §§ 25.857(e) and 25.1447(c)(1) in this regard is hereby denied.

Issued in Renton, Washington, on June 26, 1997

/s/

Stewart R. Miller  
Acting Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service, ANM-100